

CLAIMS

What is claimed is:

1. A method of inhibiting stenosis in a human blood vessel, the method comprising administering to the human an anti-CD18 antibody which binds specifically with at least the CD18 portion of a mammalian protein which comprises CD18, whereby stenosis is inhibited in the vessel.
2. The method of claim 1, wherein the anti-CD18 antibody binds specifically with substantially only the CD18 portion of the protein.
3. The method of claim 1, wherein the anti-CD18 antibody has an epitopic specificity which is the same as or similar to that of monoclonal antibody 1B4.
4. The method of claim 1, wherein the anti-CD18 antibody is monoclonal antibody 1B4.
5. The method of claim 1, wherein the anti-CD18 antibody binds specifically with at least the CD18 portion of a primate protein which comprises CD18.
6. The method of claim 1, wherein the protein is a leukocyte cell-surface antigen.
7. The method of claim 6, wherein the antigen is selected from the group consisting of Mac-1, LFA-1, p150,95, and CD11d/CD18.
8. The method of claim 7, wherein the antigen is Mac-1.
9. The method of claim 6, wherein binding of the anti-CD18 antibody with the antigen inhibits binding of a natural ligand of the antigen therewith.

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10. The method of claim 9, wherein the ligand is selected from the group consisting of ICAM-1, ICAM-2, ICAM-3, C3bi, factor X, fibrin, and fibrinogen.

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11. The method of claim 10, wherein the ligand is selected from the group consisting of ICAM-1, C3bi, factor X, fibrin, and fibrinogen.

12. The method of claim 1, wherein binding of the anti-CD18 antibody with the protein modulates at least one function normally associated with binding of a natural ligand of the protein therewith.

13. The method of claim 12, wherein the function is selected from the group consisting of binding of leukocytes with vascular endothelium, translocation of leukocytes through vascular endothelium, infiltration of leukocytes into intimal vascular tissue, release of a chemotactic factor from leukocytes in a vascular tissue, release of a growth factor from leukocytes in a vascular tissue, leukocyte-binding-associated release of a chemotactic factor from a vascular tissue, and leukocyte-binding-associated release of a growth factor from a vascular tissue.

14. The method of claim 13, wherein the leukocytes are neutrophils.

15. The method of claim 1, wherein the blood vessel is a vessel in which the vascular endothelium has been traumatically perturbed.

16. The method of claim 15, wherein the blood vessel is selected from the group consisting of a grafted blood vessel, a blood vessel in which an angioplasty balloon has been inflated, a blood vessel comprising a portion at which a laser angioplasty procedure has been performed, a blood vessel which has sustained a crushing injury, and a blood vessel into which a stent has been placed.

17. The method of claim 1, wherein the blood vessel is a vessel in which the vascular endothelium has non-traumatically deteriorated.

18. The method of claim 17, wherein the blood vessel is selected from the group consisting of an atherosclerotic blood vessel and an arteriosclerotic blood vessel.

19. The method of claim 1, wherein the blood vessel is selected from the group consisting of a coronary blood vessel and a cerebral blood vessel.

20. The method of claim 1, wherein the anti-CD18 antibody is a whole antibody.

21. The method of claim 1, wherein the anti-CD18 antibody is an antibody fragment.

22. The method of claim 21, wherein the antibody fragment is selected from the group consisting of Fv, Fab, Fab', and F(abN)₂ fragments.

23. The method of claim 1, wherein the anti-CD18 antibody is a chimeric antibody.

24. The method of claim 1, wherein the anti-CD18 antibody is a humanized antibody.

25. The method of claim 1, wherein the anti-CD18 antibody is a human antibody.

26. The method of claim 1, wherein the anti-CD18 antibody is administered to the human by providing the anti-CD18 antibody to the blood vessel.

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27. The method of claim 26, wherein the anti-CD18 antibody is provided to the vessel prior to traumatically perturbing the endothelium of the vessel.

28. The method of claim 26, wherein the anti-CD18 antibody is provided to the vessel after traumatically perturbing the endothelium of the vessel.

29. The method of claim 1, wherein the stenosis is restenosis following an angioplastic intervention performed upon the human.

30. The method of claim 29, wherein the intervention is a balloon angioplastic intervention.

31. The method of claim 29, wherein the intervention is emplacement of a vascular stent within the vessel.

32. The method of claim 1, wherein the mammalian protein is a human protein.

33. A method of alleviating stenosis in a human blood vessel, the method comprising administering an antibody to the vessel, wherein the antibody binds specifically with at least the CD18 portion of a mammalian protein which comprises CD18, whereby stenosis is alleviated in the vessel.

34. A kit for assessing stenosis in a human blood vessel, the kit comprising an anti-CD18 antibody having a detectable label and an instructional material which describes detecting the anti-CD18 antibody in a blood vessel of the human.

35. The kit of claim 34, wherein the detectable label is a gamma radiation source.

36. A method of inhibiting stenosis in a human blood vessel, the method comprising removing leukocytes which bind specifically with an anti-CD18 antibody from the human's blood, whereby stenosis is inhibited in the vessel

37. A method of alleviating stenosis in a human blood vessel, the method comprising removing leukocytes which bind specifically with an anti-CD18 antibody from the human's blood, whereby stenosis is alleviated in the vessel

38. A method of inhibiting interaction of a leukocyte having a CD18-containing cell-surface protein with vascular endothelium in a human, the method comprising contacting the leukocyte with an anti-CD18 antibody, whereby interaction of the leukocyte with vascular endothelium is inhibited.

39. The method of claim 38, wherein the leukocyte is selected from the group consisting of lymphocytes, monocytes, granulocytes, neutrophils, T cells, and basophils.

40. The method of claim 39, wherein the leukocyte is a neutrophil.

41. The method of claim 38, wherein the interaction of the leukocyte with the vascular endothelium is binding of the leukocyte with the vascular endothelium.

42. The method of claim 38, wherein the interaction of the leukocyte with the vascular endothelium is translocation of the leukocyte across the vascular endothelium.

43. A method of assessing the presence of leukocytes associated with vascular stenosis in blood obtained from a human, the method comprising
contacting the blood with an anti-CD18 antibody and
detecting binding of the anti-CD18 antibody with leukocytes in the blood,
wherein binding of the anti-CD18 antibody with leukocytes in the blood is an
indication of the presence of leukocytes associated with vascular stenosis in the blood.

44. The method of claim 43, wherein binding of the anti-CD18 antibody with leukocytes in the blood is quantified.

45. The method of claim 43, wherein binding of the anti-CD18 antibody with leukocytes in the blood of the human is compared with binding of the anti-CD18 antibody with leukocytes in control blood obtained from a human selected from the group consisting of a human afflicted with vascular stenosis and a human not afflicted with vascular stenosis.

46. A kit for assessing the presence of leukocytes associated with vascular stenosis in blood obtained from a human, the kit comprising
i) an anti-CD18 antibody and
ii) an instructional material which describes at least one of
a) quantifying the presence of the leukocytes in the blood of the human,
b) the content of the leukocyte in the blood of a human afflicted with vascular stenosis, and
c) the content of the leukocyte in the blood of a human not afflicted with vascular stenosis.

47. A method of inhibiting a disorder associated with stenosis in a blood vessel of a human, the method comprising administering to the human an anti-CD18 antibody which binds specifically with at least the CD18 portion of a

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mammalian protein which comprises CD18, whereby stenosis is inhibited in the vessel and the disorder is thereby inhibited.

48. A method of alleviating a disorder associated with stenosis in a blood vessel of a human, the method comprising administering to the human an anti-CD18 antibody which binds specifically with at least the CD18 portion of a mammalian protein which comprises CD18, whereby stenosis is alleviated in the vessel and the disorder is thereby alleviated.